

**ABRASIVE PAD****FIELD OF THE INVENTION**

The present invention relates to disposable abrasive pads.

**BACKGROUND OF THE INVENTION**

5       The human skin is a living substance with need for constant care. The human skin emits materials, such as sebum and perspiration and the skin itself is regenerating leaving dry skin and growth on its surface. Generally a human person is interested in taking care of the skin for hygienic reasons and/or cosmetic reasons. Additionally, humans apply makeup and other materials on the skin which at times they desire to remove.

10      US patent No. 6,214,362 to Page the disclosure of which is incorporated herein by reference, describes the use of cosmetic pads for removing low tension substances and applying cosmetics to the human skin.

15      The use of inexpensive disposable pads is convenient for carrying around and using to remove substances from the skin, however in some cases more aggressive means are needed to remove items which cling to the skin.

Abrasive materials are also useful in other fields, such as carpentry and metal work fields.

**SUMMARY OF THE INVENTION**

20      The present invention relates to an abrasive pad, which can be used to clean a person's skin or other surfaces. In some embodiments of the invention, the pad is compact and inexpensive to manufacture. In some embodiments it is easy to handle and multiple units can be packaged in a relatively compact manner. In some embodiments of the invention a stiff abrasive pad is bonded to a spongy material that serves as a holder for applying the abrasive pad.

25      In accordance with an aspect of some embodiments of the invention, the abrasive pad comprises a fold out handle for grasping during use. In an embodiment of the invention, the fold out handle is formed by cutting the spongy material inwardly from two opposite sides to form fold-up flaps.

30      In accordance with some aspects of the invention, the pad includes a separate ring of non-abrasive, optionally spongy material surrounding the spongy backing material to reduce contact between the edge of the abrasive pad and a surface being abraded.

There is thus provided, in accordance with an embodiment of the invention, an abrasive pad comprising:

an abrasive surface; and  
an elastomer or sponge material backing the abrasive surface and having an end remote from the abrasive surface;

5 wherein the elastomer or sponge material is formed with two slits starting at edges of the spongy material and oriented substantially parallel to the abrasive surface near the remote end of the spongy material, such that flaps formed by the slits can be folded back to form a finger hold.

10 In an embodiment of the invention, the pad comprises a separate ring of elastomer or sponge material surrounding the backing material to reduce contact between the edge of the abrasive pad and a surface being abraded.

Optionally, the elastomer or sponge material is a sponge material.

Optionally, the protective ring is of a same material as the backing.

Optionally, the pad is shaped as a cylinder.

15 There is further provided, in accordance with an embodiment of the invention, an abrasive pad comprising:

an abrasive surface;

an elastomer or sponge material backing the abrasive surface; and

a separate ring of elastomer or sponge material surrounding the backing material to reduce contact between the edge of the abrasive pad and a surface being abraded.

20 Optionally, the pad comprises a handle that is an integral part of the backing material.

Optionally, the handle is created by folding out flaps slit from the backing material.

Optionally, the protective ring is of a same material as the backing.

Optionally, the pad is shaped as a cylinder.

Optionally the elastomer or sponge material of the ring is a sponge material.

25 Optionally, the elastomer or sponge material of the backing is a sponge material.

#### **BRIEF DESCRIPTION OF FIGURES**

Particular exemplary embodiments of the invention will be described with reference to the following description of embodiments in conjunction with the figures, wherein identical structures, elements or parts which appear in more than one figure are generally labeled with a 30 same or similar number in all the figures in which they appear, in which:

Fig. 1 is a schematic illustration of a pad according to an exemplary embodiment of the invention;

Fig. 2 is a schematic illustration of an exploded view of a pad, according to an exemplary embodiment of the invention; and

Fig. 3 is a schematic illustration of applying a pad, according to an exemplary embodiment of the invention.

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## DETAILED DESCRIPTION OF EMBODIMENTS

Fig. 1 is a schematic illustration of an abrasive pad 100 according to an exemplary embodiment of the invention. In an exemplary embodiment of the invention, a thin abrasive layer 140 comprised for example from stiff paper coated with powdered emery or sand, is bound to a thicker base 110 formed from a soft spongy material for example polypropylene.

10 Optionally, a low cost material is selected in order to reduce the cost of pad 100 so that it can be regarded as a discardable item. In some embodiments of the invention, sterilized materials are used in order to supply pad 100 for use when hygienic conditions are required.

In an exemplary embodiment of the invention, flaps 120 are formed by cutting slits 150 on two sides of an upper portion of base 110. Flaps 120 are folded upward along optionally parallel fold lines 130 to allow a person to grasp the flaps and get a good grip in use of abrasive pad 100.

15 Fig. 2 is a schematic illustration of an exploded view of a pad 100, according to an exemplary embodiment of the invention. As mentioned above and shown in Fig. 2, pad 100 is comprised of thin abrasive layer 140 and generally thicker base layer 110. In an exemplary embodiment of the invention, abrasive layer 140 is less than one millimeter thick and base 110 is between 3 millimeters and one centimeter thick. The diameter of pad 100 is between 2 to 5 centimeters. Alternatively, the actual dimensions may vary, for example base 110 may be thicker (e.g. 3-5 cm) with a small diameter (e.g. 1-2 cm). In some embodiments of the invention, pad 100 can be held in the palm of a person during use. Alternatively, two hands 20 may be needed to use pad 100.

25 In some embodiments of the invention abrasive layer 140 may be thicker or thinner typically depending on the material used to form the abrasive layer. In some embodiments of the invention abrasive layer 140 is decremental, wherein it is worn down by use, for example like a pencil eraser. A thicker abrasive layer generally lasts longer than a thinner layer.

30 In an exemplary embodiment of the invention abrasive layer 140 is connected to base 110 with an adhesive substance such as glue.

In some embodiments of the invention, a protective ring 170 is fitted over pad 100. Protective ring 170 is optionally created from the same material as base 110. Optionally,

protective ring 170 has a height equal to the thickness of base 110 (optionally less the thickness of flaps 120) plus the height of abrasive layer 140. Protective ring 170 prevent forces from being exerted on the skin or other object being abraded by the sides of abrasive layer 140 during use, which could damage the object and/or cause abrasive layer 140 to fall off.

5 While a circular shape is shown for pad 100, other shapes may be useful, under certain circumstances. For example, an oval, triangular or rectangular shape may make it easier to abrade corners.

10 Fig. 3 is a schematic illustrations of applying an abrasive pad, according to an exemplary embodiment of the invention. In an exemplary embodiment of the invention, a person uses their hand 200 to grasp pad 100 by holding it from its perimeter or by grasping flaps 120. The person applies abrasive pad 100 by rubbing it against an object or an area on his body 250 that needs to be cleaned or smoothed, for example to remove dry skin from the face, dirt or hair from the hand or file a persons nails.

15 In some embodiments of the invention, multiple pads 100 of multiple shapes are supplied in a package containing pads 100, with the flaps flat against portion 110. Alternatively, each package contains multiple pads of a single shape.

20 It will be appreciated that the above described apparatus and method of use may be varied in many ways, including, changing the sizes and/or materials used in the system. For example, while sponge material is indicated as being used for the backing and ring, in some embodiments of the material, other elastomer materials such as a soft elastomer is used. It should also be appreciated that the above described description of methods and apparatus are to be interpreted as including apparatus for carrying out the methods and methods of using the apparatus.

25 The present invention has been described using non-limiting detailed descriptions of embodiments thereof that are provided by way of example and are not intended to limit the scope of the invention. It should be understood that features and/or steps described with respect to one embodiment may be used with other embodiments and that not all embodiments of the invention have all of the features and/or steps shown in a particular figure or described with respect to one of the embodiments. Variations of embodiments described will occur to 30 persons of the art.

It is noted that some of the above described embodiments may describe the best mode contemplated by the inventors and therefore may include structure, acts or details of structures and acts that may not be essential to the invention and which are described as examples.

Structure and acts described herein are replaceable by equivalents which perform the same function, even if the structure or acts are different, as known in the art. Therefore, the scope of the invention is limited only by the elements and limitations as used in the claims. When used in the following claims, the terms "comprise", "include", "have" and their conjugates mean 5 "including but not limited to".